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AUTHOR Wells, Judith
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ABSTRACT

Communicative anxiety, its corresponding avoidance behavior, and the relationship of the two to communication performance in the small group are investigated. Various definitions of anxiety are discussed. Objectives of the study are to increase knowledge in the area of anxiety reduction, avoidance behavior and communication performance by (1) widening the use of Systematic Desensitization (S.D.) to include all levels of anxiety, (2) broadening the technique by utilizing S.D. in the classroom, (3) increasing knowledge of the behavioral effects of S.D. by measuring the amount of interaction that takes place in a small group discussion after S.D. has been employed. Two control and two S.D. groups of college students were tested. Pre and Posttest analyses of variance of their anxiety level were performed. Results indicate that no significant interaction effect could be found between anxiety level and treatments for low and middle level anxiety subjects, but that it could be found for high level ones. (CK)

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A STUDY OF THE EFFECTS OF SYSTEMATIC DESENSITIZATION ON THE COMMUNICATIVE ANXIETY OF INDIVIDUALS IN SMALL GROUPS

A Thesis

Presented to

The Faculty of the Department of Speech-Communication

San Jose State College

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

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Judith Wells

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APPROVED FOR THE DEPARTMENT OF SPEECH-COMMUNICATION

William B. Lashbrook

David L. Cleavit

Clay Stone

APPROVED FOR THE COLLEGE GRADUATE COMMITTEE

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CHAPTER I

INTRODUCTION

General Statement of the Problem

Investigations of the behavior of individuals in interpersonal communication situations have been a concern of researchers for a great part of this century. Anxiety has been a focal point for these investigations.

Anxiety has been continually explored by individuals in the Speech-Communication discipline, especially in the area of public speaking. This type of anxiety has been known by various names, but the most common term is "stage fright." Clevenger (1955) in a review of the literature on stage fright defines the phenomenon as:

> . . . any emotional condition in which emotion overcomes intellect to the extent that communication is hampered, either in audience reception or in speaker self-expression, where the immediate object or stimulus of the emotion is the speech-audience situation (p. 30).

The problem of anxiety has faced the student of Speech for years. However, research in the public speaking situation is no longer the only area of exploration. Research involving the behavior of individuals in the small groups

has taken on great importance. In today's society, individuals are frequently placed in the small group situation where communicative anxiety may hamper their ability to interact. Ertle (1969) suggests that individuals who avoid interacting in the small group discussion may be demonstrating a type of interpersonal communicative anxiety. If we are able to find a cure for anxiety in the small group situation, we will, hopefully, be helping individuals to communicate more and then we can attempt to help individuals communicate more effectively. The operationalization of anxiety in the small group and its reduction is the major area of exploration for this study.

Anxiety, according to Lundin (1961), is ". . . the group of responses an organism makes under certain stimulus operations (p. 262)." He further suggests that anxiety is a learned behavioral response and that for anxiety to be produced there must be a "primary aversive stimulus" preceded by a "neutral stimulus."

Malmo (1957) suggests that the term anxiety should be used to denote "a pathological state in which the patient appears chronically overreactive (physiologically) to every stimulating situation (p. 286)." Malmo's conclusions reveal that anxiety is a physiological as well as a

psychological response to a threat provoking situation.

Wolpe and Lazarus (1966) state:

> A basic premise about neuroses is that they are persistent unadaptive learned habits of reaction. Almost universally, anxiety is a prominent constituent of neurotic reactions (p. 12).

It appears that if anxiety is one type of neurotic response, there must exist an explanation as to how this neurotic response becomes established in an individual.

Lundin (1961) discusses the persistence of neurotic responses and states that these responses are reinforced through anxiety reduction. The behavior is reinforced because the neurotic's symptoms allow him to avoid the threatening stimuli. By avoiding the stimuli and the reduction of anxiety they produce, the neurotic's behavior continues; the reinforcing effects of avoidance are more powerful than the results of punishing that might occur if the individual were to approach the stimuli.

Lundin (1961) explores this concept further in a discussion on schizophrenia. The schizophrenic:

> . . . may never have learned proper behavior necessary to deal with other people. Adequate social skills were never acquired. When the aversive stimuli were presented, in lacking the means of controlling them, he resorted to fantasy or a pseudo-world, not inhabited by real individuals but by the

> products of his own day dreams. Too frequently, the child's training was too rigid. Demands were made which he could not properly handle. To run away and hide became the result, either by physical removal from the aversive stimuli or by substituting other behavior (where reinforcements are insured) for those not forthcoming from his environment. Eventually the person so insulates himself from the environmental stimuli through his avoidance behavior that he is deprived of all sources of social reinforcement and opportunities to behave in a manner involving other persons (p. 241).

Lundin is suggesting that the individual must not be allowed to avoid the aversive stimuli because his neurotic response will become excessively dominant. However, individuals should not be placed in a situation that will reinforce the anxiety state. What is needed is a technique that will reduce the anxiety response before the individual is forced to face the aversive stimuli again.

According to Estes and Skinner (1941):

> Anxiety has at least two defining characteristics: (1) it is an emotional state, somewhat resembling fear, and (2) the disturbing stimulus which is principally responsible does not precede or accompany the state but is 'anticipated' in the future (p. 390).

Interpersonal communicative anxiety can be considered one type of neurotic response that is elicited by a threat provoking situation. Paul (1966) elaborates this by stating:

> . . . the effects of debilitating performance anxiety on relevant behaviors appear to differ in no qualitative way from the effects produced by more widespread neurotic anxiety reaction, and may be considered just as 'irrational.' Performance anxiety is, in fact, traditionally considered a form of anxiety hysteria (Hinsie and Campbell, 1960) (p. 8).

Ertle (1969), as mentioned earlier, feels that students who avoid interacting in small groups may be displaying such communicative anxiety. Further, he feels that this type of anxiety extends itself beyond the confines of the small group. People who are anxious may avoid social gatherings or business conferences where extensive interpersonal interaction may take place.

Brady and Hunt (1955) concur with this idea. They have discovered that individuals who have an anxiety response often generalize the response to other stimuli.

Attempts have been made to reduce anxiety and avoidance behavior in an interpersonal communication situation for as long as people have recognized the problem. However, "traditional" methods no longer seem to be adequate for reducing this anxiety. Ertle (1969) argues that the "traditional" methods for reducing speech anxiety, i.e., practicing more, re-orienting oneself, speaking as often as possible, etc. ignore one of the most important

assumptions of learning theory: when a person who has communicative anxiety is placed in a position to speak or practice he is reinforcing the anxiety state. These principles are consonnant with the theory that Lundin (1961) suggests.

"What is needed," according to Ertle (1969), "is a technique based on learning theory that will extinguish the state of anxiety prior to taking a speech course based on performance (p. 5)." Wolpe and Lazarus (1966) have also recognized the problem:

> A habit is a consistent way of responding to defined stimulus conditions. Ordinarily, a habit declines--undergoes extinction--when its consequences become unadaptive, i.e. when it fails either to subserve the needs of the organism or to avoid injury, pain or fatigue. Neurotic habits are distinguished by their resistance to extinction in the face of their unadaptiveness. Behavior thereapy is the application of experimentally established principles of learning to the overcoming of these persistent habits. In order to change a habit it is always necessary to modify the individual responses that constitute it. Change thus depends on eliciting behavior that can modify these individual responses (p. 1).

Wolpe and Lazarus have developed a widely used and highly successful technique for the reduction of anxiety habits and have called this technique "Systematic Desensitization." The following is a discussion of the basic assumptions

underlying Systematic Desensitization according to Wolpe and Lazarus:

> Systematic Desensitization is the piecemeal breaking down of neurotic anxiety-response habits, employing a physiological state incompatible with anxiety to inhibit the anxiety response to a stimulus that evokes it weakly repeating the exposure until the stimulus loses completely its anxiety-evoking ability. Then progressively 'stronger' stimuli are introduced and similarly treated. This technique, which characteristically employs relaxation as the anxiety-inhibiting state, has made it possible for the first time to exert direct control over a great many neurotic habits (p. 54).

The reduction of anxiety in a performance course in oral communication is obviously an area that needs further exploration. It has been established that Systematic Desensitization (S.D.) is an effective means of overcoming this type of anxiety. The literature reveals that S. D. has been used solely with high anxious individuals in a one-to-one situation or in a small (ten member) training group. It is highly improbable, due to unawareness of anxiety states, time and financial assistance, that all individuals who need S.D. could receive it. Therefore, it appears ideal to employ S.D. in the classroom with all individuals participating, regardless of their anxiety level. However, this cannot be done until the effects of S.D. are known in reference to people not only with high anxiety

responses, but with middle and low responses as well. Because S.D. works on the principle that members of a training group will progress at the rate of the slowest individual, i.e., the most anxious, it is necessary to discover what will happen to low anxious individuals after such an experience. It is the purpose of this study to increase the knowledge in the area of anxiety reduction, avoidance behavior and communication performance by (1) widening the use of S.D. to include all levels of anxiety, (2) broadening the technique by utilizing S.D. in the classroom situation, (3) increasing the knowledge of the behavioral effects of S.D. by measuring the amount of interaction that takes place in a small group discussion after S.D. has been employed.

The remainder of this investigation has been organized in the following manner: Chapter II--Review of the Literature; Chapter III--Method; Chapter IV--Results; Chapter V--Discussion of Results and Implications for Future Research.

CHAPTER II

REVIEW OF THE LITERATURE

As mentioned in the previous chapter, the purpose of this study is to investigate communicative anxiety, its corresponding avoidance behavior, and the relationship of the two to communication performance in the small group. It is a further purpose of this study to find a means of reducing this anxiety that will allow individuals to be more adequate participants in the interpersonal communication situation represented by the small group.

This chapter will consist of an examination of those studies that are most relevant to this particular investigation. Essentially, the studies that are most important can be placed into three basic categories: (1) anxiety and avoidance behavior in general, (2) anxiety and avoidance behavior in the small group, and (3) Systematic Desensitization as a method for reducing anxiety.

Anxiety and Avoidance Behavior Studies

Terminology has always plagued the investigator. Therefore, it appears necessary to examine several

definitions in order to gain a better understanding as to what is meant by anxiety and avoidance behavior.

Mowrer (1939) stated: "Anxiety (fear) is the conditioned form of the pain reaction, which motivates and reinforces behavior that tends to avoid or prevent the recurrence of the pain-producing stimulus (p. 555)."

Mowrer and Ullman (1945) examined anxiety in terms of reward and punishment and how they relate to learning theory. Their findings indicate that many individuals do behave in such a way that the effects of their behavioral acts will be more punishing than rewarding.

Further, Mowrer (1948) explains that the neurotic individual is unable to learn proper responses to stimuli. He is unable to learn adequate responses that will allow him to overcome his frustrations and conflicts.

Diven (1937) and Brady and Hunt (1955) supported the hypothesis that often people generalize from one specific stimuli to a group of larger stimuli. Frequently it is impossible for the individual to identify the causes of the original response. According to Ertle (1969):

> . . . a person who received an aversive stimulus in a one-to-one communicative relationship may generalize the state of anxiety to all communication situations and live in a chronic state of anxiety

> due to any form of interpersonal communicative interaction (p. 11).

Estes and Skinner (1941) approach the study of anxiety through the use of learning theories. The results of their study, although dealing with animals, appear to have implications for human behavior. According to Estes and Skinner:

> Anxiety is here defined as an emotional state arising in response to some current stimulus which in the past has been followed by a disturbing stimulus. The magnitude of the state is measured by its effect upon the strength of hunger-motivated behavior, in this case the rate with which rats pressed a lever under periodic reinforcement with food. Repeated presentations of a tone terminated by an electric shock produced a state of anxiety in response to the tone, the primary index being a reduction in strength of the hunger-motivated behavior during the period of the tone. When the shock was thus preceded by a period of anxiety it produced a much more extensive disturbance in behavior than an 'unanticipate' shock. The depression of the rate of responding during anxiety was characteristically followed by a compensatory increase in rate.
>
> During the experimental extinction of the response to the lever the tone produced a decrease in the rate of responding, and the terminating shock was followed by a compensatory increase in rate which probably restored the original projected height of the extinction curve.
>
> The conditioned anxiety state was extinguished when the tone was presented for a prolonged period without the terminating shock. Spontaneous recovery from this extinction was nearly complete on the following day (p. 400).

Psychoanalytic concepts have been the basis for much research by learning theorists today. The integration of psychoanalytic concepts and learning theory has created a better understanding as to behavioral acts exhibited by individuals.

Sarnoff and Zimbardo (1961) conducted an experiment based on Freud's (1949) distinctions between fear and anxiety. According to the authors:

> . . . by employing Freud's . . . conceptual distinctions between fear and anxiety, we are led to predict a tendency toward social isolation--rather than affiliation--as a consequence of certain conditions of emotional arousal (p. 356).

The results of this experiment are fundamental to the hypotheses to be generated in this study. The findings indicate:

> . . . while the desire to affiliate increases as fear increases . . . the opposite is true for anxiety; as anxiety increases the desire to affiliate decreases (p. 363).

Mowrer (1939, 1948) and Mowrer and Ullman (1945), as mentioned earlier, define anxiety in terms of reward and punishment and also suggest that a neurotic individual is unable to learn proper responses to stimuli. Such findings appear cogent; however, there does not seem to be an appropriate explanation as to why the individual will continue

to avoid the anxiety producing stimuli and thus continue to punish himself.

Lundin (1961) suggests neurotic responses are reinforced because the individual avoids the original stimuli. Because the reinforcing effects of avoidance are stronger than the effects of punishing, the behavioral act continues.

Eison (1966), summarizing much preceding research, presented the following factors related to anxiety-motivated avoidance behavior:

1. Conditioned anxiety responses do not occur singly, but in context where a whole series of hitherto innocent cues become connected with a single traumatic experience.

2. As the avoidance behavior is learned, the organism becomes increasingly sensitized to many cues that were originally quite remote from the source of the fear.

3. Soon some cues seem sufficiently frightening to produce avoidance, and the organism runs from them as if they were the true source of anxiety.

4. Since conditioned stimuli generally occur slightly earlier than the events to which they become related, anxiety is generally learned to a whole series of events in a time sequence.

5. Eventually, the avoidance responses are made to the more remote events even in

> the complete absence of the ones closer and more relevant to the initial source of fear.
>
> 6. As long as some stimuli never confront the organism, (because they occur in series), they never arouse anxiety.
>
> 7. Those stimuli not exposed to the organism (because the organism is removed from the situation) cannot undergo extinction and the stimuli retain their potential of eliciting anxiety and avoidance behavior in the future (pp. 5-6).

Eison's clear, concise, and inclusive interpretation of the meanings of anxiety and avoidance behavior will serve as the conceptualizations on which this study is based.

With an understanding of anxiety and avoidance behavior, it is possible to move on to a clarification of what constitutes a small group and how anxiety and avoidance behavior is manifested in the small group.

Anxiety and Avoidance Behavior in the Small Group

Before dealing with the idea of how anxiety and avoidance behavior are manifested in the small group, it is necessary to establish a working definition of the entity.

An examination and synthesis of various explanations as to what constitutes a small group (Bales, 1951; Homans, 1950; Barnlund and Haiman, 1960; Sattler and Miller, 1968) lead to the definition used in this study:

> A small group is defined as any number of persons gathered together face-to-face who exchange ideas because of a common goal and who make this exchange of information chiefly through oral expression.

It is important to consider how an anxious individual may react in a small group situation, but, first, the relationship between task performance and interpersonal behavior needs to be fully understood before any conclusions can be drawn regarding the importance of an individual to the success of a group.

Collins and Guetzkow (1964) have developed a model for decision-making groups. This model shows how task performance and interpersonal behavior are interdependent in such groups. The model suggests that the behavior of each individual member of the group can affect the performance of the total group in reaching its task. The question that arises is, how will the highly anxious individual react in a group situation and what will be the consequences of his actions upon the group?

Lundin (1961) states that the anxious individual will avoid the anxiety producing situation because the reinforcing effects are stronger than the effects of punishing; therefore, the anxious response is reinforced.

Collins and Guetzkow (1964) elaborate on this

principle in quite a different manner. "A communicator initiates communication when he expects a reward on the basis of his own past experience with this or similar task environments and fellow group members (p. 167)." It follows, therefore, that an individual who has an anxiety response to oral performance situations will avoid initiating communication because of fear of punishment.

Sarnoff and Zimbardo (1961) found that the more anxious an individual is, the less will be his desire to affiliate.

It does seem evident that if interpersonal obstacles can have a debilitating effect on the performance of a group, continued research is needed to reveal the best method of reducing anxiety and improving interpersonal interaction.

Systematic Desensitization Studies

In the previous section, it was mentioned that an anxiety response by an individual in a small group may be damaging to the performance of the entire group. Further, an individual avoiding interaction may be demonstrating a communicative anxiety response. The importance of every member's contribution to the group's productivity

necessitates a method for alleviating anxiety responses in individuals.

Learning theorists have attempted to find new methods of dealing with the problems of anxiety. S.D. is one of the most effective means for breaking down anxiety. The term, S.D., is most closely associated with the name of Wolpe (1958). Wolpe hypothesized that anxiety is a persistent, maladaptive behavior and that this type of behavior can be unlearned given the right circumstances. S.D. is the approach Wolpe takes to break down the anxiety and to build appropriate learned behavior for the individual.

S.D. consists of two major parts. First, the subject is trained in muscle relaxation. Second, after the subject is completely relaxed, he is asked to visualize anxiety arousing stimuli. Wolpe's theory is based in large part on the reciprocal inhibition concept of Sherrington (1906). This concept rests on the premise that the arousal of one type of response suppresses that of another. A person cannot be both relaxed and anxious at the same time. The second aspect of the S.D. procedure, visualizing the stimuli, requires an anxiety hierarchy. The subject imagines (visualizes) each threat provoking situation in

an ascending order of potency. The low threatening stimulus is presented first and then gradually other stimuli are introduced until the most threatening stimulus is visualized. The subject is actually (mentally) experiencing the situation while he is completely relaxed. Any time a subject is tense, he is told to stop visualizing a specific stimulus and try to relax. The process of relaxing, visualizing a situation, ceasing to visualize a situation and relaxing continues until the subject reports no anxiety when the threatening stimulus is visualized. Eventually, the relaxed response transfers to the actual stimulus and the anxiety response has been eliminated.

It was mentioned that the method of S.D. has been a successful and effective means for alleviating anxiety. The literature reports numerous examples of studies in which S.D. has proven effective in curing people's fears of small animals (Freeman and Kendrick, 1960; Geer, 1964; Lang and Lazovik, 1963; Lazarus, 1960). Also, S.D. has been used to help cure fears of hospitals and injections (Rachman, 1959), fears of sexual impotence (Brady, 1966; Lazarus, 1961; Wolpe, 1958), and fears of heights (Lazarus, 1961).

Those studies cited indicate that S.D. has had

positive results on subjects suffering from various types of anxieties. However, of most import to this study are the results of investigations of the application of S.D. to less debilitating anxieties such as those found in students, i.e., communicative anxiety.

Paul (1966) was one of the forerunners in the application of S.D. to problems associated with communicative anxiety. Paul compared desensitization, traditional insight therapy, attention placebo, and no treatment groups (classroom only) and their affect in reducing anxiety. In addition, Paul established a control group (individuals who were pre-tested and post-tested but were never contacted). After a battery of tests, those students who demonstrated communicative anxiety were randomly assigned to experimental and control groups. Experienced psychotherapists worked with the experimental groups for one hour a week over a six week period. A post-test was given after the treatment and, as was hypothesized, the desensitization group improved more than the traditional insight therapy, the attention placebo, the no-treatment group, and the control group. These results suggest that S.D. is an effective method for reducing communicative anxiety. This recognizes the earlier mentioned idea that "traditional"

(classroom only treatment) methods for curing anxiety are really not effective. Further, the findings indicate that there is no significant difference in the amount of anxiety reduction due to the variation in the therapists.

A follow-up study conducted by Paul and Shannon (1966) differed from the previous experiment only in that they used group rather than individual desensitization. The results indicate that S.D. training is as effective in a small group (ten member) situation as it is when individually administered.

Kondas (1967) explored the component parts of the S.D. procedure. Namely, he attempted to discover whether the entire procedure was necessary or whether the relaxation alone or the hierarchy alone could produce equally positive effects. The results indicate that the S.D. method is more effective in reducing anxiety than the relaxation alone and in turn the relaxation alone is more effective than the visualizations of the hierarchy alone. Kondas's conclusions support the notion that "traditional" methods of dealing with this type of anxiety, i.e., experience in public speaking, is not as effective as S.D.:

> . . . It may be mentioned that according to the data collected from students as well as common observation that stage fright seems to be considerably resistant to extinction

> by natural events. Despite the fact that students, for example, have a large number of opportunities for public speaking, the stage fright reaction had not been eliminated in many cases--even though some of them had tried deep breathing or to think about pleasant things when stage fright had arisen. Contrary to the inefficient extinction occurring in natural circumstances immediate reduction of fear occurs by S.D., and 'the desensitization of imaginal stimuli does indeed generalize to real-life situations (Rachman, 1966)' (p. 280).

Barrick, McCroskey, and Ralph (1968) explored the effects of S.D. on the reduction of anxiety and in addition tested to see whether trained educators could administer this technique. These results suggest new hope for the expansion and practicality of the S.D. treatment.

> The results . . . indicate S.D. as administered in this study can significantly reduce students' anxiety to test and speech situations, and that speech educators with training can successfully administer S.D. for these anxieties. The results relating to the generalization of S.D. designed for one anxiety to other anxieties were not conclusive. The results of the Spring Term study on the introspective measures and on the physiological measures suggest positive generalization, but the results of the Summer Term study do not. Long range follow-up may indicate more strongly the effects of generalization. Importantly, however, in no case was significant <u>negative</u> generalization observed. It would appear, therefore, that S.D. is a relatively "safe" technique for assisting students to overcome test and speech anxiety. However, much more research is needed before we can be certain that this is the case (p. 17).

Apparently administrators of S.D. can be trained and do not have to be professional therapists. This finding suggests that there will be more opportunities for employing S.D. for all individuals who need treatment in anxiety reduction.

Ertle (1969) investigated the difference in the reduction of anxiety between heterogeneous and homogeneous groups on the basis of anxiety scores. Previous S.D. research has assumed that the group must proceed at the rate of the most anxious member and Ertle attempted to discover whether or not the rate of extinction for the most anxious member could have a detrimental effect on the least anxious member. It must be understood that Ertle was dealing with only high anxious individuals in his investigation. His homogeneous groups consisted of persons with approximately the same score on an anxiety measure while his heterogeneous groups consisted of individuals with scores that ranged across the continum of high anxiety responses. The results of his investigation suggest:

> . . . that there are no detrimental effects in heterogeneous grouping; heterogeneous grouping may even result in a greater reduction of communicative anxiety than does homogeneous grouping. A possible explanation of the observed difference may be that an increase in the number of presentations of a given hierarchy stimulus situation during a

> state of relaxation serves as a positive reinforcement to an individual and results in a greater reduction of the anxiety caused by the stimulus (p. 49).

In the past, a large number of individuals (greater than ten) have never received S.D. simultaneously. Ertle suggests that it may be possible to assign subjects to large groups for S.D. Specifically,

> It would appear that individuals who indicate debilitating communicative anxiety may be assigned randomly to large groups for S.D. training without the need for creating special groups according to anxiety levels. Accordingly, one large S.D. training group might be formed instead of four small groups, a procedure which would cut trainer's hours from four to one and would increase the efficiency and reduce the cost of training (pp. 49-50).

The preceding studies employed S.D. in an attempt to reduce communicative anxiety responses in individuals. The findings suggest that S.D. is an effective method for reducing communicative anxiety, that S.D. has been successful in a one-to-one situation and in a small group (ten member) environment, that trained educators are successful as S.D. administrators, that heterogeneous groups (groups of individuals that vary as to level of anxiety) may be used to administer S.D. and that it may be possible to achieve anxiety reduction with large S.D. training groups.

DEFINITION OF TERMS

Problems of terminology are sometimes considered the most critical concern of researchers. It is the purpose of this section to clearly define the terms that will be used for this study.

Communicative Anxiety

A physiological and psychological response to a threat provoking situation. Persistent, maladaptive, learned habits of reaction to an interpersonal communicative situation as demonstrated by a self-reported measurement.

Measurement of Communicative Anxiety

A revised form of Paul's (1966) Personal Report of Confidence as a Speaker. The results of the pre-test instrument will be analyzed in the following manner: (1) upper third on the instrument will constitute the high anxious Ss; (2) middle third on the instrument will constitute the middle anxious Ss; (3) lower third on the instrument will constitute the low anxious Ss. This categorization (anxiety level) will constitute one of the independent variables.

Avoidance Behavior

The result of an anxiety reaction to an interpersonal communication situation. The tendency toward non-participation in a small group discussion as measured by a frequency based sociometric device.

Measurement of Avoidance Behavior

A sociometric device that will enable observers to record all contributions that members of a small group make during a twenty minute discussion.

Systematic Desensitization

A technique for the reduction of anxiety and avoidance behavior of individuals in small groups. The receiving of S.D. training or traditional classroom instruction constitutes the second independent (treatment) variable for this study.

Small Groups

Six persons gathered together face-to-face who exchange ideas because of a common goal and who make this exchange of information chiefly through oral expression. The groups used in this study held their discussions before an audience consisting of the instructor of the class, the

class members and three observers.

Interaction

Any verbal contribution made by a single member of a group towards the entire group or to another member of the group.

GENERATION OF HYPOTHESES

It can now be acknowledged that anxiety responses are detrimental to effective oral communication in the small group. Further, S.D. has proven to be an effective means of overcoming communicative anxiety in the public speaking situation. It would be useful at this time to see if S.D. is an effective means of reducing communicative anxiety in the small group. Prior research has suggested that it may be possible to utilize S.D. in groups composed of individuals who vary as to their level of anxiety. Also, it has been hypothesized that S.D. may be administered to large training groups; however, these hypotheses have not yet been tested. We must demonstrate, empirically, that S.D. will work in various situations before we experiment and possibly hamper many of our students' ability to communicate. Therefore, the hypotheses for this study are:

I. Subjects, regardless of treatment condition, with high communicative anxiety will demonstrate less willingness to interact than subjects with moderate communicative anxiety who, in turn, will demonstrate less willingness to interact than subjects with low communicative anxiety.

II. Subjects, regardless of pre-test anxiety levels, who receive S.D. training, will demonstrate a greater reduction in communicative anxiety than subjects who do not receive S.D. training.

III. Taking pre-test anxiety scores into account, all subjects receiving S.D. training will be more willing to interact than their counterparts who did not receive S.D. training.

CHAPTER III

METHOD

This study was designed to see: (1) if S.D. can be successfully administered to large numbers of individuals at the same time; (2) if S.D. is effective for all levels of anxiety; and (3) if S.D. can reduce anxiety and avoidance behavior and thereby enable individuals to be more active participants in a small group discussion. The purpose of this chapter is to explain the methodology employed in seeking the answers to the above questions.

Subjects

Ss were those students enrolled in four sections of the basic course in Discussion and Argument at San Jose State College during the Spring, 1970 semester. Two of the sections received S.D. and two sections received regular classroom instruction.

Instruments

A modified form of Paul's (1966) Personal Report of Confidence as a Speaker (PRCS) was used as the pre- and

post-test measure of self-reported anxiety (see Appendix A).

A frequency based sociometric device was used to record contributions made by participants during a single group discussion (see Appendix B).

Pilot Study

The anxiety hierarchy used in this study was developed as a result of a pilot survey made of students enrolled in four sections of the basic course in Discussion and Argument at San Jose State College during the Fall, 1970 semester (see Appendix C). Students were asked to respond to twelve statements regarding feelings about discussion groups. Then they were asked to rank order the five most fear producing situations. The stimuli for the hierarchy are supposed to be presented in such a way that there is a logical progression of events and in a way that the stimuli are introduced in an ascending order of potency, the most threatening stimulus last. After tabulating the responses made by the students, the anxiety hierarchy for this study was established (see Appendix D).

Training of Observers

Three observers were used to record the contributions

of participants during the twenty minute discussion groups. All observers attended a one hour training session where instructions were given to them. Observers were asked to sit in the center of the room near the back so they could have a direct view of all the subjects. It was explained that participants would face the audience in a semi-circle around a large conference table. As the observer looked at the group, subject number one would be that individual sitting on the left side. Subject number two would be next to one and so on until number six, who would be sitting in the farthest right position as the observer looked at the group. Observers were asked to record on their rating sheet the names of all the participants, the class hour, the instructor, the group number, and whether it was the pre-test or the post-test measure. Observers were then told of their duty which was to record contributions made by the participants during a single group discussion. The instructions as to what constituted a contribution were discussed (see Appendix E). One of the observers was asked to time the discussion and signal the other participants when the twenty minutes had elapsed. Observers were asked to stop counting the contributions when they received the time signal even if the discussion went a few minutes over.

Logistics

The pre-test (Paul's PRCS) was administered to all sections at the end of the third meeting of the class. The next two meetings of the classes were used for public discussion groups. Groups of six members each held these public discussions for two days. Topics were assigned randomly to each group (see Appendix F). Observers were in attendance to record individual contributions at these discussion meetings.

Control Groups

There were two control groups for this study, each with a different instructor. The control groups met at their scheduled class hour and they received regular classroom instruction. The instructors of the two control groups were each given a set of restrictions as to what they could not do during the five sessions that followed the initial discussions--the other two sections received S.D. (see Appendix G).

S.D. Groups

There were two S.D. groups for this study. The S.D. groups met at the regular class time, but instead of receiving classroom instruction they participated in S.D. training.

The five S.D. sessions were held immediately following the pre-test discussions and just prior to the post-test discussions.

Following the five sessions, all groups held discussions just as they did prior to the treatment. The only change was that the Ss were reassigned to groups. The post-test (Paul's PRCS) was administered to all participants the day following the last discussion group.

Systematic Desensitization Administrator

The S.D. administrator was an instructor in the Department of Speech-Communication at San Jose State College. He was familiar with work that has been done in this area and had served previously as an administrator of the S.D. technique.

Statistical Design

The hypotheses to be tested in the null form were as follows:

I. Subjects, regardless of treatment condition and anxiety level, will demonstrate an equal amount of willingness to interact in the small group structure.

II. Subjects, regardless of pre-test anxiety levels,

who receive S.D. training, will demonstrate an equal amount of reduction in communicative anxiety as those subjects who do not receive S.D. training.

III. Taking pre-test anxiety scores into account, all subjects receiving S.D. training will demonstrate an equal amount of willingness to interact as their counterparts who did not receive S.D. training.

The hypotheses that have been offered were the basis on which this study was conducted. The following is a list of the statistical measures that were used to analyze the data for this study:

Hypothesis I

1. Kellogg V. Wilson Distribution-Free Two-Way Analysis of Variance Test (Alpha $\leq$ .05).
2. Mann-Whitney U Test for individual comparisons between anxiety levels if appropriate (Alpha $\leq$ .05 one-tailed).

Hypothesis II

1. Kellogg V. Wilson Distribution-Free Two-Way Analysis of Variance for difference scores as measured

by the PRCS (Alpha $\leq$ .05).

Hypothesis III

1. Kellogg V. Wilson Distribution-Free Two-Way Analysis of Variance Test for difference scores on the behavioral measure (Alpha $\leq$ .05).
2. Mann-Whitney U Test for individual comparisons between anxiety levels if appropriate (Alpha $\leq$ .05 one-tailed).
3. Mann-Whitney U Test for individual comparisons between treatments if appropriate (Alpha $\leq$ .05 one-tailed).

The Mann-Whitney U Test was employed as an aid in the interpretation of the results when warranted.

This chapter has offered a description of the methodology employed in testing the hypotheses for this study. The next chapter will contain a report of the results of the analysis of the data.

CHAPTER IV

RESULTS

This chapter will report on the methodology employed in selecting subjects used for the analysis, the reliability of the observer ratings, the reliability of the Personal Report of Confidence as a Speaker and the results of the analysis of PRCS pre-test scores between treatment and control groups. Finally, the hypotheses of the study will be examined in terms of the statistical analysis of the appropriate data.

Selection of Subjects

Forty-two individuals were selected for inclusion in the final analysis--twenty-one in the S.D. group and twenty-one in the control group. Based on the PRCS pre-test scores, seven subjects from each treatment were assigned to high anxious, seven to middle anxious, and seven to low anxious groups (see Appendix H).

Reliability of Observers

From the outset, the behavioral measure of the subjects

at both the pre-test and post-test conditions of the research was defined as the combined observed frequency of interactive communication. This combination of the observed frequency of three raters was determined by converting the observed frequency of interaction for each individual to a proportion of interaction for the entire group. This latter step was accomplished by simply dividing the frequencies of interaction for each individual recorded by the three observers by the total frequency of interaction for each group recorded by the observers. It was assumed that the reliability of the observers would be sufficiently high ($\geq$ .60) to warrant such a procedure. In order to determine if this assumption was met, the researcher employed Ebel's (1951) statistical technique known as Intraclass Reliability. Since the data was in the form of frequencies, it was necessary to transform the data in conformance to the essential statistical assumptions underlying the Ebel approach to reliability. The transformation used in this project was the one recommended by Winer (1962) and is represented symbolically by the formulation:

$$X_{ijk}' = \sqrt{X_{ijk}} + \sqrt{X_{ijk+1}}$$

All statistical procedures involved in determining observer reliability were performed on the San Jose State CDC 3300 model computer utilizing Lashbrook's (1965) Ebel's Reliability Correlation Coefficient: FORTRAN IV Computer Program.

Table 1 represents the pre-test/post-test observer reliabilities for the individual frequencies for each of the six cells of the research design.

TABLE 1

PRE-TEST/POST-TEST OBSERVER RELIABILITIES FOR INDIVIDUAL FREQUENCIES

	Treatment	
Level of Anxiety	Systematic Desensitization	Control
High	.898/.909	.978/.976
Middle	.825/.742	.929/.909
Low	.866/.827	.893/.867

Table 2 represents the pre-test/post-test combined observer reliabilities for the total group frequencies for each of the six cells of the research design.

TABLE 2

PRE-TEST/POST-TEST OBSERVER RELIABILITIES
FOR TOTAL GROUP FREQUENCIES

Level of Anxiety	Treatment: Systematic Desensitization	Treatment: Control
High	.924/.930	.965/.963
Middle	.889/.800	.892/.843
Low	.854/.856	.874/.797

An examination of the reliability coefficients contained in Tables 1 and 2 indicates that the assumption of high observer reliability was in fact met.

Reliability of PRCS

The statistical technique used for analyzing the PRCS

data was the Kuder-Richardson Formula 20 (Guilford, 1954). The reliability obtained (Table 3) corresponds to those previous studies which have employed the PRCS measure.

TABLE 3

PRE-TEST/POST-TEST PRCS RELIABILITIES

Systematic Desensitization	Control
.957/.939	.915/.967
.900/.881	.961/.942

PRCS Pre-test Analysis

In order to determine if the S.D. Ss differed from the control Ss prior to the onset of the experiment, a Kellogg-Wilson (1956) two-way analysis of variance of the PRCS pre-test scores was done (Table 4). Results indicated no significant difference between treatments, but there was a significant difference between anxiety levels. There was no significant interaction effect between treatments and anxiety levels.

TABLE 4

TWO-WAY ANALYSIS OF VARIANCE:
PRCS PRE-TEST SCORES

Source of Variance	Degrees of Freedom	x^2
Anxiety Level	2	28.42*
Treatments	1	.01
Interaction	2	.83

* Significant at the .05 level

Subsequent U tests indicated that there was a significant difference between high and middle anxious ($U = 0$, $p < .05$), between high and low anxious ($U = 0$, $p < .05$), and between middle and low anxious ($U = 0$, $p < .05$) Ss. These results combine to support the assumption that the procedures used for subject selection and cell placement were consistent with the objectives of the study.

Analysis of Hypothesis I Data

Hypothesis I of this study predicted a significant difference between all anxiety levels in terms of the

pre-test behavioral measures. The results suggest that the hypothesis was partially supported (Table 5). A significant x^2 value was found for differences between anxiety levels. The analysis also revealed, as expected, that there was no significant difference between treatments and no significant interaction effect between anxiety level and treatments.

TABLE 5

TWO-WAY ANALYSIS OF VARIANCE:
BEHAVIORAL PRE-TEST SCORES

Source of Variance	Degrees of Freedom	x^2
Anxiety Level	2	6.96*
Treatments	1	.905
Interaction	2	2.07

* Significant at the .05 level

Subsequent U tests indicated that this result was created primarily by differences between high and middle

anxious Ss (U = 52.5, $p < .05$) and between high and low anxious Ss (U = 36.0, $p < .05$). Middle and low anxious Ss did not significantly differ (U = 93.0, $p > .05$).

Analysis of Hypothesis II Data

Hypothesis II predicted a significant difference between S.D. and Control groups in terms of the PRCS difference scores. Analysis of the PRCS pre-test/post-test difference scores shows that the hypothesis was not supported (Table 6). There was no significant difference between treatments. The analysis did reveal that there was a significant difference between anxiety levels. The two-way analysis of variance also indicated that there was no significant interaction effect between treatments and anxiety levels.

Subsequent U tests suggested that there was a significant difference between high and low anxious Ss (U = 22.5, $p < .05$) and between middle and low anxious Ss (U = 28.5, $p < .05$), but not between high and middle anxious Ss (U = 67.5, $p > .05$).

Analysis of Hypothesis III Data

Hypothesis III predicted a significant difference between S.D. and Control groups in terms of the behavioral

TABLE 6

TWO-WAY ANALYSIS OF VARIANCE:
PRCS DIFFERENCE SCORES

Source of Variance	Degrees of Freedom	x^2
Anxiety Level	2	9.43*
Treatments	1	.096
Interaction	2	1.524

* Significant at .05 level

difference scores. Results of the analysis shows that the hypothesis was partially supported (Table 7). A two-way analysis of variance indicated that there was a significant difference between treatments. The analysis also suggested a significant difference between anxiety levels, but no significant interaction effect could be found between anxiety levels and treatments.

Subsequent analysis of the difference between treatments revealed that the only significant difference was between the high anxious S.D. Ss and the high anxious

TABLE 7

TWO-WAY ANALYSIS OF VARIANCE:
BEHAVIORAL DIFFERENCE SCORES

Source of Variance	Degrees of Freedom	x^2
Anxiety Level	2	8.20*
Treatments	1	6.11*
Interaction	2	2.17

* Significant at the .05 level

Control Ss (U = 6.0, p< .05). There was no significant difference between the middle anxious S.D. and the middle anxious Control (U = 12.0, p >.05) nor between the low anxious S.D. and the low anxious Control (U = 16, p >.05).

Subsequent analysis of the difference found between anxiety levels on the two-way analysis of variance revealed that a significant difference between the high and low anxious Ss existed (U = 59.5, p <.05), but no significant difference between the high and middle anxious (U = 94.0, p > .05) or between the middle and low anxious (U = 63.0, p > .05) was found.

The next chapter will consist of a discussion of the results of this study and implications for future research will be explored.

CHAPTER V

DISCUSSION OF RESULTS AND IMPLICATIONS FOR FUTURE RESEARCH

This chapter will consist of a discussion of the results of the analysis of data. Each hypothesis will be discussed followed by suggestions for future research.

Discussion of Results

The analysis of the behavioral pre-test scores showed that Hypothesis I was partially supported. Significant differences were found between high and middle anxious Ss and between high and low anxious Ss but no significant difference was found between middle and low anxious Ss. This finding lends support to previous research employing the S.D. treatment. Ss with high communicative anxiety did avoid the threat provoking situation by demonstrating less willingness to interact. A possible explanation as to why there was no significant difference between the middle and low anxious Ss is that the anxiety response is not debilitating. Although the self-report measure indicated

some degree of anxiety, it may not have been great enough to cause noticeable lack of participation. This finding suggests that it is possible to isolate high anxious individuals with a behavioral measurement. The self-reported high anxiety Ss demonstrated less willingness to interact on the behavioral measure; therefore, it may be possible to use an alternative measure to the PRCS as a predictive instrument in measuring communicative anxiety of individuals in group discussion. Many Ss may report one feeling and yet respond quite differently. The use of a behavioral measure of anxiety may provide researchers with a more objective measurement of anxiety than a self-report can provide.

Analysis of the PRCS difference scores showed that there was no significant difference between S.D. and Control Ss. Although further analysis was not warranted, an examination of the data revealed that high anxious S.D. Ss tended toward greater decreases in anxiety scores than any of the other levels of the research design. It should be noted that Table 8 is in the form of mean scores in order to provide a descriptive view of the findings.

This substantiates previous research findings in that S.D. is effective with high anxious Ss. The fact that

TABLE 8

MEAN PRCS DIFFERENCE SCORES:
TREATMENT AND ANXIETY LEVELS

Level of Anxiety	Treatment: Systematic Desensitization	Treatment: Control
High	-12.43	-4.57
Middle	-7.71	-3.14
Low	-.43	+5.14

differences can be found in the high anxious Ss who received S.D. supports the assumption that S.D. need no longer be restricted to the one-to-one situation or to the small group (ten member). It seems appropriate to suggest that S.D. could be effective with as many as twenty-five individuals participating. Based on earlier findings, however, it may be advisable to limit the participation in S. D. training to Ss who demonstrate a high level of anxiety. Further analysis revealed that there was a significant difference between anxiety levels on the PRCS difference

scores measure. Subsequent tests revealed that the difference was between high and low anxious Ss and between middle and low anxious Ss, but not between high and middle anxious Ss.

The analysis of the behavioral difference scores indicated a significant difference between treatments. Further analysis revealed that the difference was between high anxious Ss who received S.D. and high anxious Ss in the Control treatment. No significant differences were found between the middle S.D. and the middle Control or between the low S.D. and the low Control Ss. This finding concurs with earlier studies which concluded that S.D. could be used effectively with high anxious individuals. It supports the notion that a behavioral measure is needed to analyze anxiety levels. The PRCS difference scores measure yielded no significant difference between treatments while the behavioral measurement reveals a significant difference between high anxious S.D. and high anxious Control Ss. A possible explanation for this is that Ss may not feel that their anxiety response has changed after S.D. and therefore their responses on the PRCS measurement do not reflect such a change in anxiety. However, when actual behavior was measured after S.D. training, Ss did

demonstrate more willingness to interact. Again, it is probable that the PRCS, which has been used in numerous studies as the single measure of anxiety, is not the only nor most desirable indicator of communicative anxiety. The analysis also revealed a significant difference between anxiety levels on the behavioral difference scores. Further examination proved that the only significant difference was between high and low anxious Ss. This finding lends confirmation to previous findings that high anxious individuals will significantly benefit from S.D. Further, this study shows that these results can be produced in the small group structure.

Implications for Future Research

The finding that high anxious Ss demonstrated a tendency to avoid interacting in a group discussion as compared to other individuals and the fact that high anxiety in a group discussion can be determined by a behavioral measure opens many new avenues for investigation in future research.

Future studies could attempt to elaborate on the behavioral instrument used in this study and standardize such an instrument.

Investigations could be made to find out if high anxious individuals contribute in different ways to a group discussion. Perhaps high anxious people avoid the subject matter of a discussion or possibly they continually ask questions thereby avoiding participation in most of the discussion. Analysis of the characteristics of the behavior of the high anxious individual could provide new answers to the study of anxiety.

Future investigators should seek to determine whether or not S.D. is an effective technique over an extended period of time. A replication of this study could be performed which included a series of post-tests. It may be found that S.D. does not have a long lasting effect and that individuals should receive training periodically to reinforce the original effect of training.

The anxiety hierarchy could be revised to include items that this research did not contain.

Studies of anxiety in group discussion need not be limited to the college community. Investigations in the future should be done in the business community, in professional groups, or with any group of individuals who display communicative anxiety and whose anxiety may cause a reluctance to communicate. Alteration in the hierarchy could

be made to meet the individual needs of different groups.

Anxiety has been a focus of research for many years. Studies of the use of S.D. for the reduction of anxiety and avoidance behavior of individuals in group discussion is a new area of exploration. Certainly, many people suffer from communicative anxiety. It is up to those people interested in Speech-Communication to continue research in this area.

Selected Bibliography

SELECTED BIBLIOGRAPHY

Bales, R.F. Interaction process analysis. Cambridge: Addison-Wesley Press, 1951.

Barnlund, D.C., & Haiman, F.S. The dynamics of discussion. Boston: Houghton Mifflin, 1960.

Barrick, J.E., McCroskey, J.C., & Ralph, D. The effects of systematic desensitization on speech and test anxiety. Unpublished paper presented at Speech Association of America Convention, Chicago, 1968.

Brady, J.V., & Hunt, H.F. An experimental approach to the analysis of emotional behavior. Journal of Psychology, 1955, 40, 313-324.

Clevenger, T., Jr. A definition of stage fright. Central States Speech Journal, 1955, 7, 26-30.

Collins, B.E., & Guetzkow, H. A social psychology of group processes for decision-making. New York: Wiley, 1964.

Diven, K. Certain determinants in the conditioning of anxiety reactions. Journal of Psychology, 1937, 3, 291-308.

Ebel, R. L. Estimation of the reliability of ratings. Psychometrika, 1951, 16, 407-424.

Eison, C.L. Extinction of avoidance behavior: CS presentations with and without punishment. Unpublished master's thesis, San Jose State College, 1966.

Ertle, C. A study of the effect of homogeneous grouping on systematic desensitization for the reduction of interpersonal communication apprehension. Unpublished doctoral dissertation, Michigan State University, 1969.

Estes, W.K., & Skinner, B.F. Some quantitative properties of anxiety. Journal of Experimental Psychology, 1941, 29, 390-400.

Freeman, H.L., & Kendrick, D.C. A case of cat phobia. British Medical Journal, 1960, 2, 497-502.

Freud, S. Inhibitions, symptoms, and anxiety. London: Hogarth, 1949.

Geer, J. Phobia treated by reciprocal inhibition. Journal of Abnormal and Social Psychology, 1964, 69, 642-645.

Guilford, J.P. Psychometric methods. New York: McGraw-Hill, 1964.

Homans, G.C. The human group. New York: Harcourt, Brace, and World, 1950.

Kondas, O. Reduction of examination anxiety and stage fright by group desensitization and relaxation. Behavior Research and Therapy, 1967, 5, 275-281.

Lang, P.J., & Lazovik, A.D. Experimental desensitization of a phobia. Journal of Abnormal and Social Psychology, 1963, 66, 519-525.

Lashbrook, William B. Ebel's reliability correlation coefficient: FORTRAN IV computer program. Michigan State University, Department of Speech, March, 1965. (Punched Cards.)

Lazarus, A.A. The elimination of childrens' phobias by deconditioning. In H.J. Eysenck (Ed.), Behavior Therapy and the Neuroses. New York: Pergamon, 1960.

_____. Group therapy of phobic disorders by systematic desensitization. Journal of Abnormal and Social Psychology, 1961, 63, 504-510.

Lundin, R.W. Personality: an experimental approach. New York: Macmillan, 1961.

Malmo, R.B. Anxiety and behavioral arousal. Psychological Review, 1957, 64, 276-287.

Mowrer, O.H. Learning theory and the neurotic paradox. American Journal of Orthopsychiatry, 1948, 18, 571-610.

_____. A stimulus response analysis of anxiety and its role as a reinforcing agent. Psychological Review, 1939, 46, 553-565.

Mowrer, O.H., & Ullman, A.D. Time as a determinant in integrative learning. Psychological Review, 1945, 52, 61-90.

Paul, G.L. Insight versus desensitization in psychotherapy. Stanford, California: Stanford University Press, 1966.

Paul, G.L., & Shannon, D.T. Treatment of anxiety through systematic desensitization in therapy groups. Journal of Abnormal Psychology, 1966, 71, 124-135.

Rachman, S. The treatment of anxiety and phobic reactions by systematic desensitization psychotherapy. Journal of Abnormal and Social Psychology, 1959, 58, 259-263.

Sarnoff, I., & Zimbardo, P.G. Anxiety, fear, and social affiliation. Journal of Abnormal and Social Psychology, 1961, 62, 356-363.

Sattler, W.M., & Miller, N.E. Discussion and Conference (2nd ed.) Englewood Cliffs, New Jersey: Prentice-Hall, 1968.

Sherrington, C.S. The integrative action of the central nervous system. Cambridge: Cambridge University Press, 1906.

Wilson, K.V. A distribution-free test of analysis of variance hypotheses. Psychological Bulletin, 1956, 53, 96-101.

Winer, B.J. Statistical principles in experimental design. New York: McGraw-Hill, 1962.

Wolpe, J. Psychotherapy by reciprocal inhibition. Stanford, California: Stanford University Press, 1958.

Wolpe, J., & Lazarus, A.A. Behavior therapy techniques. New York: Pergamon, 1966.

APPENDICES

APPENDIX A

PRE-TEST/POST-TEST QUESTIONNAIRE

The items listed below have been designed to assist you in expressing your feelings about speaking in public.

Indicate the degree to which the statements apply to you by marking whether you (A) strongly agree, (B) agree, (C) are undecided, (D) disagree, or (E) strongly disagree with each statement. Work quickly, just recording your first impression in each case.

Do not mark on these pages. Please use the answer card and the electrographic pencil provided.

		(A)	(B)	(C)	(D)	(E)
1.	I look forward to an opportunity to speak in public.	SA	A	U	D	SD
2.	My hands tremble when I try to handle objects in front of an audience.	SA	A	U	D	SD
3.	I am in constant fear of forgetting what I want to say when I speak in public.	SA	A	U	D	SD
4.	Audiences seem friendly when I address them.	SA	A	U	D	SD
5.	While preparing a speech I am in a constant state of anxiety.	SA	A	U	D	SD
6.	At the conclusion of a speech I feel that I have had a pleasant experience.	SA	A	U	D	SD

APPENDIX A (continued)

		(A)	(B)	(C)	(D)	(E)
7.	I dislike to use my body and voice expressively.	SA	A	U	D	SD
8.	My thoughts become confused and jumbled when I speak before an audience.	SA	A	U	D	SD
9.	I have no fear of facing an audience.	SA	A	U	D	SD
10.	Although I am nervous just before getting up I soon forget my fears and enjoy the experience.	SA	A	U	D	SD
11.	I face the prospect of participating in a discussion before an audience with complete confidence.	SA	A	U	D	SD
12.	I feel that I am in complete possession of myself while speaking.	SA	A	U	D	SD
13.	I prefer to have notes in front of me in case I forget my material.	SA	A	U	D	SD
14.	I like to observe the reactions of my audience to my speech.	SA	A	U	D	SD
15.	Although I talk fluently with friends I am at a loss for words in front of an unfamiliar audience.	SA	A	U	D	SD
16.	I feel relaxed and comfortable while speaking.	SA	A	U	D	SD

APPENDIX A (continued)

		(A)	(B)	(C)	(D)	(E)
17.	Although I do not enjoy speaking in public I do not particularly dread it.	SA	A	U	D	SD
18.	I always avoid speaking in public if possible.	SA	A	U	D	SD
19.	The faces of my audience are blurred when I look at them.	SA	A	U	D	SD
20.	I feel disgusted with myself after trying to address a group of people.	SA	A	U	D	SD
21.	I enjoy preparing a talk.	SA	A	U	D	SD
22.	My mind is clear when I face an audience.	SA	A	U	D	SD
23.	I am fairly fluent.	SA	A	U	D	SD
24.	I perspire and tremble just before getting up to speak.	SA	A	U	D	SD
25.	My posture feels strained and unnatural.	SA	A	U	D	SD
26.	I am fearful and tense all the while I am speaking before a group of people.	SA	A	U	D	SD
27.	I find the prospect of speaking mildly pleasant.	SA	A	U	D	SD
28.	It is difficult for me to calmly search my mind for the right words to express my thoughts.	SA	A	U	D	SD

APPENDIX A (continued)

		(A)	(B)	(C)	(D)	(E)
29.	I am terrified at the thought of speaking before a group of people.	SA	A	U	D	SD
30.	I have a feeling of alertness in facing an audience.	SA	A	U	D	SD

APPENDIX B

OBSERVER RATING SHEET

#1 _____

#2 _____

#3 _____

#4 _____

#5 _____

#6 _____

DATE:

INSTRUCTOR:

CLASS HOUR:

CIRCLE GROUP:

1 2

CIRCLE:

PRE-TEST

POST-TEST

OBSERVER:

#1 _____

#2 _____

#3 _____

#4 _____

#5 _____

#6 _____

APPENDIX C

PILOT SURVEY

We are aware that many students enrolled in oral communication courses have many fears when they are put in a situation in which they must speak before a group.

The purpose of this survey is to isolate certain fear producing situations so that in the future instructors may be able to help students more effectively overcome these fears.

Indicate the degree to which the statements apply to you by marking either (A) extremely nervous, (B) very nervous, (C) moderately nervous, (D) slightly nervous, (E) not nervous. Circle the most appropriate answer.

1. Talking about the coming discussion a week before your own group presentation (in class or after).	A	B	C	D	E
2. Being in the audience while another group makes their presentation.	A	B	C	D	E
3. Actually researching and organizing your material.	A	B	C	D	E
4. Getting dressed the morning of your presentation.	A	B	C	D	E
5. Activities just prior to leaving for your group presentation.	A	B	C	D	E
6. Entering the room on the day of the presentation.	A	B	C	D	E
7. Walking up before the audience.	A	B	C	D	E
8. Actually participating in the discussion.	A	B	C	D	E

9.	Someone criticizes your comments (disagrees with you).	A	B	C	D	E
10.	Someone agrees or praises a statement you make.	A	B	C	D	E
11.	Someone asks you to participate more and you have nothing to contribute.	A	B	C	D	E
12.	Someone makes a statement with which you do not agree (trying to decide whether or not to comment).	A	B	C	D	E

Rank order the 5 most fear producing situations listing the most fear producing situation first. Select your situations from those listed above.

1. #_____
2. #_____
3. #_____
4. #_____
5. #_____
6. #_____

APPENDIX D

ANXIETY HIERARCHY

1. Talking about the coming discussion a week before your own group presentation (in class or after).

2. Being in the audience while another group makes their presentation (one week before your own presentation).

3. Actually researching and organizing your material.

4. Getting dressed the morning of your presentation.

5. Activities just prior to leaving for your group presentation.

6. Entering the room on the day of the presentation.

7. Being in the audience while another group makes their presentation (the same day as your group presentation).

8. Walking up before the audience.

9. Actually participating in the discussion (your very first contribution).

10. Someone criticizes your comments (disagrees with you).

11. Someone asks you to participate more and you have nothing to contribute.

APPENDIX E

OBSERVER INSTRUCTIONS

1. Check once for each time an S begins to speak.
2. Check only once if an S stops a speech and starts again without interruption.
3. Check only once if an S continues to speak while another S speaks simultaneously. The second S to speak also receives a check.
4. Check twice if an S speaks, is interrupted, and speaks again (there must be an interruption to warrant a second check).

APPENDIX F

DISCUSSION TOPICS

1. What is religion? What is or should be the role of religion in our society?
2. Discuss the most important things that a child should be taught.
3. What movies and/or T.V. series would you send to foreign countries to best represent the American way of life?
4. Discuss the changing roles of men and women in this society.
5. Discuss the advantages/disadvantages of the pass/fail system.
6. Discuss the most characteristic aspects of American life.
7. Discuss the various extremist groups in this society. What do the extremist groups contribute to this society?
8. Discuss the term "communication." What do we mean when we say we can't communicate? Is it possible that there is a communication gap rather than a generation gap?

APPENDIX G

INSTRUCTOR'S REGULATIONS
(CONTROL GROUPS)

1. Do not allow students to meet in small groups.
2. Do not lecture on speech anxiety (stage fright, etc.).
3. Content of previous discussion may be reviewed if the class wishes to do so.
4. Do not bring up the subject of anxiety. If a student mentions the subject, do not hesitate to talk about it either with the whole class or in private. Do not mention, if you know, the design of the study.

APPENDIX H

PRCS PRE-TEST SUBJECT PLACEMENT

Level of Anxiety	Treatment: Systematic Desensitization	Treatment: Control
High	127	125
	113	122
	104	122
	102	114
	98	110
	95	108
	91	100
Middle	88	90
	86	86
	85	85
	83	84
	81	83
	79	80
	77	77
Low	76	72
	76	70
	73	62
	72	62
	71	58
	66	57
	66	51